

## CLAIMS:

1. A voltage supply circuit, comprising:
  - a first transistor (21) having a main electrode, and a control electrode that is not directly connected to ground; and
    - 5 a second transistor (22) having a first main electrode coupled to the main electrode of the first transistor (21), and a second main electrode for supplying a regulated voltage, the second main electrode being coupled to the control electrode (26) of the first transistor (21).
  2. A circuit according to claim 1 wherein the first transistor (21) is a JFET.
    - 10 3. A circuit according to claim 2 wherein the second transistor (22) is a JFET.
    4. A circuit according to claim 1, wherein a gate (25) of the second transistor (22) is connected to ground.
      - 15 5. A circuit according to claim 1, wherein the first transistor (21) is formed by a silicon-on-insulator (SOI) integration technology.
      6. A circuit according to claim 1, wherein the second transistor (22) is formed by
        - 20 a silicon-on-insulator (SOI) integration technology.
      7. A circuit according to claim 1, wherein the first transistor (21) is a high voltage JFET and the second transistor (22) is a low voltage JFET.
      - 25 8. A circuit according to claim 1, further comprising a load (24, 30) coupled to the second main electrode of the second transistor (22) to receive the regulated voltage.